"ENHANCEMENT OF MULTIPLE INTELLIGENCE AMONG SECONDARY SCHOOL STUDENTS"

"माध्यमिक विद्यालय के विद्यार्थियों में एकाधिक बुद्धिमता का संवर्धन"

A
SYNOPSIS
SUMITTED TO THE
MAHARSHI DAYANAND SARASWATI UNIVERSITY, AJMER
FOR THE DEGREE
OF

DOCTOR OF PHILOSOPHY
IN
{EDUCATION}

By
Pradeep Mohan Singh Udawat

UNDER THE GUIDANCE OF
DR. NAGENDRA SINGH
[Prof. and H.O.D. Education] R.I.E., Ajmer

MAHARSHI DAYANAND SARASWATI UNIVERSITY
AJMER, RAJASTHAN
2016

CERTIFICATE BY SUPERVISOR

Certified that:-

1. I am willing to guide the research work of **Mr. Pradeep Mohan Singh Udawat** on the above subject if he registered for Ph.D.
2. To the best of my knowledge the subject selected has not been studied so far in any university.
3. The subject is of sufficient scope to keep the candidate engaged for two years.
4. The subject will lead to a valuable contribution. I have seen and approved the outline and bibliography, etc. submitted by the candidate.
5. Necessary facilities are available in the department for the above research work (Certificate from Principal/Head University Department with regards to facilities available is enclosed).
6. I have ..... research candidate registered under my supervision and the serial no. of this candidate whose application being forwarded for registration is .....
7. The candidate is not a close relation (the term close relation is defined in examination ordinance of the university).

डॉ० नगेन्द्र सिंह
Dr. Nagendra Singh
विभागाध्यक्ष-शिक्षा
Head of Deptt. of Education
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Regional Institute of Education
अजमेर (राज०)/ Ajmer (Raj.)

Signature of the Supervisor with date

Certified that the available facilities will be extended to Mr. **Pradeep Mohan Singh Udawat** for research work if he registered for Ph.D.

Principal
क्षे. शि. सं. अजमेर
R. I. E. AJMER

Signature of Principal/ Director of the Institute with date

APPENDIX-IV

Format for outline of Proposed Research Work

(To be supplied in four copies)

1. Name of scholar :
   (In English) : **Pradeep Mohan Singh Udawat**
   (In Hindi) : प्रदीप मोहन सिंह उदावत

2. Title of Research Work :
   (In English): **"ENHANCEMENT OF MULTIPLE INTELLIGENCE AMONG SECONDARY SCHOOL STUDENTS"**

   (In Hindi) "माध्यमिक विद्यालय के छात्रों में एकाधिक बुद्धिमानी की वृद्धि"

3. Location :
   a). Institution/Department where the work is to be done: **Department of Education, RIE, Ajmer**
   b). Geographical area of investigation: **Jodhpur District**

4. Importance of proposed investigation, objectives : **Annexure-1**

5. Review of work already done on the Subject of proposed research study. : **Annexure-2**

6. Research gaps identified in the proposed field of investigation. : **Annexure-3**

7. Major hypothesis, if any : **Annexure-4**

8. Material and methods/research methodology : **Annexure- 5**

9. Bibliography : **Annexure - 6**

ANNEXURE 1

4. INTRODUCTION, IMPORTANCE OF PROPOSED INVESTIGATION, OBJECTIVES

The process of education focuses primarily on the transactions between teacher and learner in various kinds of formal and informal settings. Being a value in itself and viewed as an instrument of personal and social development in education constitutes the main concern of the contemporary societies. The fundamental principle of UNESCO, 1972 "Education should contribute to every person's complete development- mind and body, intelligence, sensitivity, aesthetics, appreciation and spirituality" which is reasserted by the UNESCO, 1996 and it emphasizes the importance of all round development of an individual which is the main aim of the education.

Education is a lifelong process by which an individual adapts himself/herself gradually and gracefully to the available physical, intellectual, social, and multiple environments.

Education all the way through life is based on four key pillars:

a. Learning to know.
b. Learning to do.
c. Learning to live together.
d. Learning to be, which all together shape an individual as a whole (UNESCO, 1996)

Both learning to live together and learning to be, should be stressed for the all round development of an individual. With the changing scenario in modern education system and need of time, all round capabilities and intelligent performances should be developed in students so that they can get success at every platform and to become successful in social and practical life.

For achievement of said goals multiple intelligences can be a master key. So M.I. must be enhanced in backbone of school classes i.e., secondary level students. The theory of multiple intelligences was developed in 1983 by Dr. Gardner Howard. He defined multiple intelligences as "the ability to solve problems or to create products that are valued within one or more cultural settings". All normal human beings possess these eight intelligences

viz. linguistic, logical, mathematical, spatial, bodily, kinesthetic, musical and intrapersonal.

It is suggested that the traditional notion of intelligence based on I.Q. testing is far too limited. Instead of that, Dr. Gardner proposes eight different intelligences to account for a broader range of human potential in children and adults. These intelligences are:

- Linguistic intelligence ("word smart")
- Logical-mathematical intelligence ("number/reasoning smart")
- Spatial intelligence ("picture smart")
- Bodily-kinesthetic intelligence ("body smart")
- Musical intelligence ("music smart")
- Interpersonal intelligence ("people smart")
- Intrapersonal intelligence ("self smart")
- Naturalist intelligence ("nature smart")

To develop/flourish all potentialities in children at school age, teachers must abandon old dull way of teaching and to replace it that they be trained to present their lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia field trips and inner reflection. If this be done then all these potentialities can be enhanced in children. If this is done, children can show high potentials and can develop all above abilities in themselves. As the secondary school level is the door step or first step of maturity, researcher aims to enhance these all kind of multiple intelligences among secondary school students through different teaching-learning processes. It proceeds to promote natural abilities, motivation, engagement, human potential of different fields in students which can be a plan-step in his further study, different field and his future success.

OBJECTIVES OF THE STUDY:

Based on the aims of present study, following objectives will be accomplished:

1) To study the level of multiple intelligences (in total and component wise) of secondary school student.
2) To develop the multiple intelligence enhancement programme (in total and component wise)

3) To enhance multiple intelligences (in total and component wise) of secondary school student through using teaching-learning strategies and concerned material and literature.
4) To study the concerned material and literature in enhancing multiple intelligences (in total and component wise) of secondary school students.
5) To study the effect of concerned material and literature in enhancing multiple intelligences (in total and component wise) of secondary school students in terms of its components from different gender(male and female)
6) To study the effect of concerned material and literature in enhancing multiple intelligences (in total and component wise) of secondary school students from socio economic status(High, Moderate, Low).
7) To study the effect of concerned material and literature in enhancing multiple intelligences (in total and component wise) of secondary school students with different levels of general intelligence (High, Moderate, and Low).

SIGNIFICANCE OF THE STUDY:

The theory of multiple-intelligence was developed by Howard Gardner 1983. Today there are 8 multiple intelligences related to a person's unique aptitude set of capabilities and ways that might prefer to demonstrate intellectual abilities. Gardner is of the view that "people have a unique blend of capabilities and skills (intelligences)". Further he says that people who have an affinity towards one of the intelligences do so in concert with other intelligences as "they develop skills and solve problems". Previous researchers showed that M.I. can integrate:

1. Educational theories.
2. Teaching strategies.
3. Other pedagogical tools in meaningful and useful ways.
4. Can increase student's potential.
5. Can enable students to become more efficient in other fields and studies.
6. Can be used for curriculum development planning instructions, selection of course activities and related assessment strategies.

The researcher Carol Dweck, has shown that our attitudes to success strongly affect our self motivation and our willingness to try when learning gets tough. Researcher is of the view that this M.I. can be a very useful way for secondary school students in their schooling atmosphere, further studies, to get success in competition, successful in human and social life. This enhancement of M.I. in students can help them in following ways:

1. It helps learners to reflect on the oven perceptions about intelligence, cleverness and ability.
2. It helps focus on that how people (students) become more intelligent.
3. It undermined teachers that pupils are strong in some aspects of intelligence and less strong in others.
4. It helps students to nature and develops their talents and abilities.
5. It can be used as a conceptual framework for organizing and reflecting on the curriculum.
6. Teachers can use M.I. to get to know each pupils dominant strengths and areas for development.
7. M.I. has proved to be an influential model in schools and has been used by educators to reflect on what we see as important in learning and teaching.
8. M.I. has spawned a series of books, card games commercial tests.
9. M.I. provides a wide variety of identifiable areas of knowledge and skills beyond the traditional, verbal and numerical to include the personal social and creative.
10. Through M.I. students can easily discover that they have strengths and can use it in areas in which they are not so strong.
11. M.I. can be used to remind students that everyone is good at some things and has difficulty with others.
12. M.I. can allow students to safely explore and learn in many ways and they can help students directly their own learning (Brock 2003 page;24)
13. By M.I., teachers can promote new possibilities for learning, with greater emphasis on lifelong learning, which support the development of student's skills in creativity and innovation.
14. Through M.I. , students will be able to demonstrate and share their strengths. Building strengths gives a student the motion to be a

"specialist". This can be done lead to increased self esteem. (Educational Broadcasting Corporation 2004).

Having all these maternities and capabilities be developed in students can make them more clever, smart, intellectual , full of potentials, more vigilant, good at studies, confident and many more abilities in himself. Beyond all these qualities there are many stones unturned in the field of enhancement of M.I. That is why? The researcher has planned for deep study in this field. Researcher wants to find hidden unknown results by enhancement of M.I. among secondary school students. So, this study can be more significant for the researcher as well as for others from the student point of view. So, researcher has chosen this area for his study (research).

ANNEXURE-2

5. REVIEW OF WORK ALREADY DONE ON THE SUBJECT OF PROPOSED RESEARCH STUDY.

REVIEW OF LITERATURE:

In review of literature, researcher has gone through M.I. ,Intelligence, and Enhancement of M.I. related materials. Researcher has also studied related thesis and their abstract. The detailed analysis of related literature will be discussed and analyzed in thesis. Meanwhile review of literature in brief formulated as follows:-

1. **Title**: COMPETENCY OF SECONDARY TEACHER EDUCATION STUDENTS IN RELATION TO THEIR M.I. AND I.C.T. AWARENESS. Research was conducted by F.L. Jasmine using survey method. 1331 students were taken as a sampling. The objective of the study was to find the influence of M.I. and I.C.T. awareness on teaching competency of the secondary teacher education students. The study reveals that there is a significant influence of verbal, spatial, naturalistic, existential, interpersonal intelligence and I.T.C. Awareness on teaching competency of the secondary teacher education students.

2. **Research paper: Topic:** CAN M.I. ENHANCE LEARNING FOR HIGHER EDUCATION ONLINE INSTRUCTION. **Author** Clifford E. Tyler National University of education San. Jose, California U.S.A. **Abstract:** This paper examines the application of Howard Gardner's M.I. theory of differential instructional strategies for the education of the adults. This paper defined M.I. theory, provided background about the online instruction, the assessment of students, how students can involved in identifying their M.I. strengths and how online course activities can be applied to M.I. theory.

3. **Article:** M.I. THEORY EDUCATIONAL IMPLICATIONS, **Author** R. Poornima, research scholar and project fellow U.G.C.

Source: EDU TRACKS Feb, 2011

Abstract: This article explores the theory of M.I. (nature ,criteria for recognition ,key points of the theory and eight intelligences) describes the

general teaching strategies practiced, barriers in implementing the M.I. in the class room and ways and means to overcome those barriers.

4. **Articles:** M.I, A BROAD VISION OF EDUCATION, **Author** Dr. Reena .V Nair (Senior lecturer. Humanities & Sciences Hyderabad).

Source: EDUTRACKS Feb,2010

Abstract: In this article he author avers that M.I. Theory still had utility in education helping many teachers to look beyond the narrow confines of curriculum and testing.

5. **Gardner's three principal books about M.I. are-**

- ✓ **Frames of Mind (editions 1983/1993/2004/2011)**
- ✓ **Intelligence Reframed (1999)**
- ✓ **Multiple Intelligences: New Horizons (2006)**

6. **Selected Resources:**

- ✓ **Armstrong's.(2010) Multiple Intelligences**
- ✓ **Howard Gardner (2010) Multiple Intelligences**

7. **Gardner and Hatch (1989)** discussed about the educational implications of the theory of M.I. They proposed that educators should recognize and teach to a broader range of talents and skills.

8. **Gardner and Hatch (1989)** demonstrated that children perform differently on activities that require the use of different intelligences, suggesting that they have strengths and weaknesses in different areas and distinct intellectual profiles. They showed that among a sample of preschool children, there is reasonable evidence for the disaggregation of intellectual factors.

9. **Gardner (1999)** Postulated that there were many forms of intelligences, many ways by which we know understand and learn about our world, not just one. Gardner's view of intelligence is baked by scientific research, which revealed different part of the brain to be sides of different abilities, Gardner identified that scientific understanding of intelligence is ever changing and the accumulation about the brain and genetics will only accelerate the process and M.I. will become more appealing.

10. **Mcnally and Peart (1999)** examined the use of Gardner's multiple intelligences to improve student behavior. Twenty students in prekindergarten, kindergarten, and first grade classrooms in two suburban Chicago schools were studied. Misbehavior such as talking out, not keeping

their hands to themselves, being off-task, not cooperating, and not participating was documented by means of classroom observations and anecdotal Methodology 68 records. The intervention was comprised of 16 classroom lessons using each of the 8 intelligences; lessons were implemented in October and November of the school year. Visual aids were used to ensure that students understood the intelligences, and graphic organizers were used to engage students in the learning process. Each student's strongest intelligence was identified, and it was determined if the student was behaving properly during a lesson geared toward that particular intelligence. The results suggested that 77 percent of students showed an improvement in their behavior when working on activities geared toward their strongest intelligence.

11. **Joyce (2003)** tested the viability of using Gardner's theory of multiple intelligences as a structure for identifying knowledge diversity in business students and whether such knowledge increases identification of self and others as potential sources of knowledge. The results from business students with substantial work histories indicated that the Multiple Intelligence Preference Inventory gives a valid and reliable indication of their preferred intelligences and that knowledge of these results is associated with assessments of self as sources of knowledge for others and, conversely, identification of others as potential sources of knowledge. The results were further supportive for investigations into the use of the inventory and knowledge of multiple intelligence theory not only as part of a knowledge identification and sharing program for students but also as a tool for recognizing, respecting, and benefiting from such diversity in the workplace.

12. **Sohn (2004)** conducted the study on methods for introducing M.I. to middle school students. Findings suggested that the students identified M.I. profiles assisted them in selecting appropriate strategies to solve mathematical problems.

13. **Chan (2004)** assessed the profiles of eight intelligences of 133 gifted students from five perspectives based on their self-ratings and ratings by their mothers, fathers, teachers, and peers. Across different perspectives, logical-mathematical intelligence received the highest ratings whereas bodily-kinesthetic and naturalist intelligences received the lowest ratings. Based on the three profile similarity indices, elevation, scatter, and shape

computed to describe each of the typical profiles of students, mothers, fathers, teachers, and peers, it was suggested that the mother perspective and the father perspective were more similar than those of teachers and peers. In addition, the indices also suggested the interpretation that mothers tended to be more sensitive to students' multiple intelligences than fathers, teachers, and peers. Students' perceived creativity and leadership were more Methodology 69 predictable using the multiple intelligences from the student perspective.

14. **Davis (2004)** designed a study to increase the academic achievement of 4th-grade students in science. The problem to be solved was that 4th-grade students in a rural elementary school exhibited low academic achievement in science. The researcher utilized the multiple intelligences (MI) theory and brain-based learning to develop the IMPACT strategy. This acronym was based on the essential components in the treatment program: introduce the focus lesson, make it relevant, practice the new concept in MI learning centers, allow time to set goals and reflect on learning, choose an independent learning project, and take time to celebrate. The independent variable consisted of the MI learning centers, and student achievement was the dependent variable. In the one group/pretest-posttest research design model, the participants were given a pretest, exposed to an intervention program (i.e., the IMPACT strategy), and given a posttest to determine the effectiveness of the intervention. As a result of the intervention, 3 of the 6 expected outcomes were achieved: Twenty students completed and turned in science class work assignments daily, displayed appropriate behavior for learning during science, and displayed a positive attitude about learning in science. Analysis of the results indicated that there was a significant improvement in students' achievement, behavior, and self-esteem.

15. **Hickey (2004)** reported increased student achievement in music, literature, history, and geography. MI-based units were developed and implemented in various classrooms by teachers enrolled in multiple intelligences graduate course. The five case studies revealed an increase in student engagement and participation. In a music unit, students were more actively engaged, remembered information for longer periods, and utilized higher level thinking skills to make connection between different musical

eras and artists. The five case studies provided clear examples of student success attributed to MI based instruction.

16. Jung and Myung-Hee (2005) determined whether Korean young children exhibited distinct profiles of intellectual strengths and weaknesses based on Project Spectrum and Methodology 70 the working style differences of children among strength, no strength/weakness and weakness domains. Spectrum is perhaps best viewed as a theory based approach, which includes Gardner's Multiple Intelligences theory, for assessment and educational practice in the early childhood years, with the explicit goal of identifying and nurturing the distinctive cognitive strengths and interests of young children. Project Spectrum was applied to 16 preschool children of which ten male children and six female children. Project Spectrum workshops were performed four times over the period of four months to assess Project Spectrum activities and the working style of children. To obtain data regarding the children's working styles in the theme-centered activities including the Project Spectrum activity, the researchers observed the class 25 times. Project Spectrum consisted of 15 activities within the seven intelligence domains of movement, language, mathematics, science, visual arts, music and social. Present study only included seven Project Spectrum activities: Creative Movement Measure (movement domain), Story-board Activity (language domain), Dinosaur Game (mathematics domain), Treasure Hunt Game (science domain), Art Portfolio (visual arts domain), Happy Birthday (music domain), Classroom Model (Social domain). Each activity was videotaped or audiotaped, and two independent observers scored children. Spearman rank order correlations between the Project Spectrum activity scores of the two observers ranged from 0.86 (language) to 0.97 (mathematics) and demonstrated the inter-rater reliability of these scores. Spearman rank order correlations between the scores of the two observers about the working style of children ranged from 0.91 (language, science) to 0.97 (art). To compare children's performances across each of the activities, standard deviations (SD) were calculated for each activity. Children who scored one or more SD above the mean were judged to have a strength on that activity; those who scored one or more SD below the mean were considered to have a weakness in that activity. Project Spectrum helped to find in which domains each child had strength and/or

weakness. Most children had some strength or weakness and showed relative strong and weak domains on a personal level as it was also found that a child's strength in one area might facilitate performance in another. The study also showed that performances of children in domains of strength compared with domains of no strength/weakness and weakness were characterized by 'easy to engage', 'confident', Methodology 71 'focused', 'persistent' and 'reflective on own work'. Identifying and developing children's strengths is one of the most effective and desirable ways to get children to have positive working styles.

Above researches indicates that multiple intelligences could be identified at an early age among children. Identification of strength and weakness enables teachers to adopt strategies, which further helps to work with the existing intellectual skills of children.

ANNEXURE-3

6. RESEARCH GAPS IDENTIFIED IN THE PROPOSED FIELD OF INVESTIGATION

After review of literature studied by researcher no study was undertaken on "ENHANCEMENT OF MULTIPLE INTELLIGENCE AMONG SECONDARY SCHOOL STUDENTS", has created the need to conduct research and generate empirical evidence on above dimensions of multiple intelligence among secondary school students. There is need to have evidences from a diverse range of sources including observations, information and data and people's views. The researches on multiple intelligence have used varied samples and failed to conclude about multiple intelligence of secondary school students. Multiple intelligence is a continuous process comprising propelling cycles.

Hence, the researches on multiple intelligence have established the importance at secondary school students and generated the need to conduct the research on multiple intelligence. Thus, the multiple intelligence is important for individuals in deciding their intelligence.

Intelligence is not just about taking in information provided by someone, it is about questioning that information and putting it to work. Multiple intelligence have considered it important for improving quality and development of secondary school students.

The study will assist the education system – multiple intelligence to evaluate present multiple intelligence and plan for improvement strategies to help secondary school students.

ANNEXURE-4

7. MAJOR HYPOTHESIS, IF ANY

HYPOTHESIS OF THE STUDY:

In order to achieve objectives of the study following hypothesis will be formulated and will be tested corresponding to objectives.

1). There will be no significant difference in multiple intelligences (M.I.) of the IX class students in the Control and Experimental group before and after the treatment through the enhancement programme.

2). There will be no significant difference between the post Mean score of students in M.I. (in total and component wise).

3). There will be no significant difference between the gain score of students of Experimental group and Control group in M.I. (in total and component wise).

4). There will be no significant difference between Mean of gain score of M.I. (in total and component wise) of Male and Female students of Experimental group.

5). There will be no significant difference among Mean gain score of students of Experimental group belonging to High, Moderate and Low S.E.S. in their M.I. (in total and component wise).

6). There will be no significant difference among Mean gain score of students of Experimental group belonging to High, Moderate and Low Intelligence in their M.I. (in total and component wise).

8. MATERIAL AND METHODS/RESEARCH METHODOLOGY

- **A OPERATIONAL DEFINITIONS OF KEY TERMS:**

1. **Enhancement:** to enrich with or to increase something with. So far skills are concerned to develop some abilities, potentialities in secondary schools students.
2. **Intelligence:** the generally excepted view of intelligence is that is about cognitive or mental ability. Charles Spearman one of the early pioneers in thinking about intelligence called the 'g' factor and intelligence tests have been designed to measure it.
3. **Multiple intelligence(M.I.):** Howard Gardner in 1983, M.I. is a set of abilities, talents or mental skills that all individuals possess to a greater or lesser extent. Gardner defined 8 types of M.I. In his study 8 M.I. have been taken for enhancement.
4. **Secondary school students:** stand for government secondary school students of class 9th and 10th of rural and urban areas schools of Jodhpur district.
5. **Enhancement techniques:** in this study enhancement techniques stand for strategies and teaching learning material and literature enhancing skills used by researcher for enhancement of M.I.
6. **Socio economic status (S.E.S.):** stands for different social economic status of students belonging to rural and urban areas of Jodhpur district.
7. **Gender:** stands for Male and Female students of class IX of government secondary/higher secondary schools of Jodhpur district.
8. **High, Moderate and Low:** stands for the point of view of General Intelligence and socio economic status of Secondary school students of class IX.
9. **M.I.E.P.:** stands for multiple intelligence enhancement programme.

A. RESEARCH DESIGN METHODOLOGY:

The study will be experimental cum descriptive in nature i.e. quasi-experimental design will be employed for the present study. The investigator will plan execution of the study in two parts:-

PART-I Development of the Multiple Intelligence Enhancement Programme (M.I.E.P.).

For this, investigator will select some activities as a part of Enhancement Programme after discussion with experts of the field.

PART-II Experimentation and testing the effectiveness of M.I. enhancement programme (M.I.E.P.)

This part will be divided in three phases: -

A. **Pre-Experimentation phase:** - In this phase following work will be comprised of:-

a) **Selection of the sample:** - A group of 80 students of IX class will be selected from the Secondary/Higher Sec. Schools for the study of enhancement of M.I.

The selected sample will be divided in two groups as:-

- Experimental group of 40 students.
- Control group of 40 students.

b) Pre -Testing: - All the selected sample of Exp. & Cont. group will be pre-tested by using Standardized Instruments i.e. M.I. Scale, Intelligence Scale & S.E.S. scale.

B. Experimentation phase: - The researcher will execute his strategies i.e. teaching learning material and literature (M.I.E.P.) on experimental group. This process will take 3 to 5 months to execute researchers programme to enhance M.I. (in total and component wise) among secondary school students.

C. Post- Experimentation phase: -

a. Post-testing: After successful completion of experimentation researcher will organize post- test of Experimental & Cont. group by standardized tools to gain post data of enhanced M.I. (in total and component wise).

b. Statics of Analysis: On basis of all data received, the Mean, S.D., t-test and ANOVA will be applied for statistical analysis of gathered data.

c. Reaction Scale: administered to the Exp. Group to get the information regarding the effectiveness of programme.

d. A group discussion: will also hold with experimental group regarding enhancement programme.

e. Result: Then through analysis, researcher will get result and justify hypothesis testing and further suggestions for related research.

B. BACKGROUND VARIABLES:

The investigator has selected four types of background variables for the enhancement of M.I. (in total and component wise) among secondary school students: -

1. Dependent variables : Multiple intelligences
2. Independent variable : M.I. enhancement materials(M.I.E.P.)
3. Interviewing variables: a previous knowledge of M.I.
4. Controlled variables:-

a) Male and female secondary school students.
b) Gender secondary school students.
c) High, moderate and low socio economic secondary school students.
d) High, moderate and low secondary school students with General Intelligence.

C. POPULATION AND SAMPLE:

Population is the entire mass of observation which is the parent group from which a sample is to be formed. The sample observation provides only an estimation of population characteristics. The population of the study consists of the students of the secondary school of Jodhpur district.

The most important aim of sampling studies is to obtain maximum information about the phenomena under the study with the least sacrifice of money, time and energy. It will be difficult to conduct research study on every individual of the above mentioned population, so fragment of the whole is taken into consideration for the present study. The result of the study conducted on this fragment can be extended for the total population. The researcher will select a suitable size of sample by employing convenience sampling technique for the present study in about 80 students of class IX^{th} from the same school where the adequate number of students in class IX^{th} available and concerned H.M. willing to permit the enhancement programme and member of staff also cooperate for experimentation, will be

taken. The intact students will make equated on intelligence and socio-economic status scale to make homogeneous group.

On the basis of multiple intelligences pre-test the students will be divided into two groups:

1. The control group.
2. The experimental group.

In these students both sexes i.e., males and females will be included.

Table: Detail of the sample

Characteristic of Sample	Experimental Group	Control Group
Boys	20	20
Girls	20	20
Total	40	40
Medium of instruction	Hindi	Hindi

D. TOOLS TO BE USED

In the present study the following tools and techniques will be used to collect the necessary qualitative and quantitative data.

A. To Collect General Information: Self made Personal Data Sheet will be used to collect general information about respondent.

B. To Collect Quantitative Data:

1. Multiple Intelligence Self Assessment Scale constructed by Dr. V.D. BHATT , Prof. R.I. Mysore to evaluating the enhancement of multiple intelligence of respondent i.e. IX class students.
2. Group test of general mental ability Dr. S. Jalota to access the I.Q. of respondent.
3. Kuppuswamy's Socio Economic Status Scale- for accessing the S.E.S. of the respondent.
4. Reaction Scale (Self made) –To used to get feedback of the respondent on programme to understand the concept of M.I. & its component.

C. To Collect the ~~Quantitative~~ Qualitative Data:

1. Casual observation schedule (self-made)-

To get the feedback of respondent about the enhancement programme in terms of behaviors change of respondents (students).

2. Group Discussion (Focus Group Discussion)-

To know the effectiveness of enhancement programme through student interaction. This will be carried out after each session on the different dimensions of M.I.

D. The Enhancement Programme of M.I.E.P.: (self-made)

Multiple Intelligence Enhancement Programme (M.I.E.P.) i.e. teaching learning material and literature for experimentation.

E. STATISTICAL TECHNIQUES TO BE USED:

After collecting the information and data the researcher will analyzed both quantitative and qualitative data with the help of following statistical techniques: -

A. Descriptive Statistics- Mean and S.D. will be worked out on the score of M.I. Scale, to find out level of M.I. (in total and component wise).

B. Inferential Statistics-

I. t-value: - For testing the hypothesis about the difference between Exp. & Cont. group.

II. ANOVA: - Difference among students belonging to High, Moderate and Low S.E.S. and General Intelligence one-way ANOVA will be employed.

III. Percentage: - To analyze practically & effectiveness of the programme quality wise, the data gathered through Reaction Scale, Observation Scale & Group Discussion will be subjected to qualitative analysis. The percentage value will be calculated.

F. DELIMITATION OF THE STUDY:

In research we study only a segment of a reality working on only a single problem is possible due to design impose restriction on the researchers.

For obtaining an accurate focus, it becomes essential to limit the problem, keeping in view, the resources of the investigator, the present study will be delimited to mentioned objectives 1 to 7. This study will be confined up the researcher ability, efforts and resources. The expected findings of the

study will be based on analysis and statistical testing of hypothesis assumed.

G. SCHEME OF CHAPTERIZATION:

The objectives, hypothesis, methodology and findings in brief have been discussed in this synopsis. The review of related literature, methodology in detail, detailed data analysis, interpretation of findings, ways of enhancement of multiple intelligences techniques, recommendations as the importance in human life, in teaching profession, in perfect guiding to students and parents, in social life and in success in life, will be discussed in detail in thesis. Suggestions for the further study will be given in the final form of the thesis. The thesis will be presented in five chapters such as:

Chapter 1: Identification of the problem, defining concepts, basic introduction of the study, Objectives and Hypothesis.

Chapter 2: The second chapter will deal with Review of Related Literature. In the second chapter the researcher will carry review of other related study.

Chapter 3: The third chapter will deal with base of research and research design, tool and statistical techniques and development of M.I.E.P.

Chapter 4: The fourth chapter will deal with process of collection, analysis and interpretation of data. In the fourth chapter the researcher will bring out the qualitative and quantitative analysis of the study on the basis of the data collected.

Chapter 5: The fifth chapter will deal with findings, conclusion and suggestions. In the fifth chapter the researcher will bring out final findings and conclusion of the study, further researches, ideas about the new areas of research.

ANNEXURE - 6

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Source: EDUTRACKS Feb, 2010

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